

IN THE CLAIMS

1. (Currently Amended) A composite article comprising a first polymeric substrate layer and a second polymeric substrate layer, each of said polymeric substrate layers having at least a diffusion-inhibiting barrier disposed on a surface thereof, wherein the diffusion-inhibiting barriers on said substrate layers face each other within said composite article and at least one of said diffusion-inhibiting barriers comprises a material, the composition of which varies substantially continuously across a thickness thereof, and wherein compositions of regions across a thickness of said at least one diffusion-inhibiting barrier are selected from the group consisting of organic materials and inorganic materials.

2. (Canceled)

3. (Canceled)

4. (Original) The composite article according to claim 1, wherein at least one diffusion-inhibiting barrier comprises a plurality of alternating sublayers of at least an organic polymeric material and at least an inorganic material.

5. (Original) The composite article according to claim 4; wherein said inorganic material is selected from the group consisting of metals, metal oxides, metal nitrides, metal carbides, metal oxynitrides, metal oxyborides, and combinations thereof; and said organic material is selected from the group consisting of polyacrylates, polyurethanes, polyamides, polyimides, polybutylenes, isobutylene isoprene, polyolefins, epoxies, parylene, benzocyclobutadiene, polynorbornenes, polyarylethers, polycarbonate, alkyds, polyaniline, ethylene vinyl acetate, ethylene acrylic acid, derivatives thereof, and combinations thereof.

6. (Original) The composite article according to claim 1, further comprising a chemically resistant hardcoat disposed on a surface of one of said polymeric substrate layers opposite to a diffusion-inhibiting barrier.

7. (Original) The composite article according to claim 1, further comprising a layer of an electrically conducting material disposed on a surface of one of said polymeric substrate layers opposite to a diffusion-inhibiting barrier.

8. (Currently Amended) An apparatus comprising:

(a) a composite article that comprises a first polymeric substrate layer and a second polymeric substrate layer, each of said polymeric substrate layers having at least a diffusion-inhibiting barrier disposed on a surface thereof, wherein the diffusion-inhibiting barriers on said substrate layers face each other within said composite article; and

(b) an electronic device disposed on said composite article, wherein at least one of said diffusion-inhibiting barriers comprises a material, the composition of which varies substantially continuously across a thickness thereof, and wherein compositions of regions across a thickness of said at least one diffusion-inhibiting barrier are selected from the group consisting of organic materials and inorganic materials.

9. (Canceled)

10. (Canceled)

11. (Original) The apparatus according to claim 8, wherein at least one diffusion-inhibiting barrier comprises a plurality of alternating sublayers of at least an organic polymeric material and at least an inorganic material.

12. (Original) The apparatus according to claim 11, wherein said inorganic material is selected from the group consisting of metals, metal oxides, metal nitrides, metal carbides, metal oxynitrides, metal oxyborides, and combinations thereof; and said organic material is selected from the group consisting of polyacrylates, polyurethanes, polyamides, polyimides, polybutylenes, isobutylene isoprene, polyolefins, epoxies, parylene, benzocyclobutadiene, polynorbornenes, polyarylethers, polycarbonate, alkyds, polyaniline, ethylene vinyl acetate, ethylene acrylic acid, and combinations thereof.

13. (Original) The apparatus according to claim 8, wherein said electronic device comprises an electronically active material disposed between a pair of electrodes.

14. (Original) The apparatus according to claim 13, wherein said electronic device is an organic electroluminescent device.

15. (Original) The apparatus according to claim 13, wherein said electronic device is an organic photovoltaic device.

16-26. (Withdrawn)